

PRELIMINARY AMENDMENT

Serial No. N/A

Inventor: Koch et al.

Page 4

Amendments to the Claims:

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of Claims:

1. (currently amended) ~~Device~~ A device for white light interferometry comprising a light source of main emission wavelength λ_0 and spectral width $\Delta \lambda$ and an evaluating unit with a line sensor of pixel width P for detecting an interference fringe pattern with a fringe spacing F , a mask being placed in front of the line sensor having a periodically modulated light transmittance along said line sensor, ~~characterized in that~~ wherein the period length M of the mask is such as to ~~fulfil~~ fulfill the condition

$$\frac{\Delta \lambda}{\lambda_0} < \left| 1 - \frac{F}{M} \right| < \frac{1}{2} \frac{F}{P} - \frac{\Delta \lambda}{\lambda_0}$$

2. (currently amended) ~~Device~~ The device according to claim 1, ~~characterized in that~~ wherein the period length M is an integral fraction of the pixel width P .

3. (currently amended) ~~Device~~ The device according to ~~one of the preceding claims,~~ claim 1, ~~characterized in that~~ wherein the mask is formed by covering the line sensor pixel with a plurality of opaque points, ~~particularly~~ defined by metallic dots.

4. (currently amended) ~~Device~~ The device according to claim 3, ~~characterized in that~~ wherein the opaque points are statistically distributed perpendicular to an axis of the line sensor axis and ~~the~~ a covering density along the axis is in accordance with a periodic function, ~~particularly~~ selected from the group consisting of a sine, rectangular ~~or~~ and sawtooth function.

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Page 5

5. (currently amended) ~~Device~~ The device according to claim 3, ~~characterized in that~~ wherein the opaque points are applied in a regular arrangement which is periodically repeated along the line sensor.

6. (currently amended) ~~Device~~ The device according to ~~one of the claims 1 or 2,~~ claim 1, wherein the line sensor comprises at least two pixel lines and the mask is constructed as an alternate arrangement of transparent and light-deflecting elements, ~~the wherein~~ wherein deflected light ~~being~~ is detected by the second pixel line.

7. (currently amended) ~~Device~~ The device according to claim 6, ~~characterized in that~~ wherein light deflection takes place by refraction.

8. (currently amended) ~~Device~~ The device according to claim 6, ~~characterized in that~~ wherein light deflection takes place by diffraction on gratings.